



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,268	04/09/2007	Don Eadie	042530A	3139

38834 7590 08/03/2011
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

AUNG, SAN M

ART UNIT	PAPER NUMBER
----------	--------------

3657

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

08/03/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary	Application No. 10/581,268	Applicant(s) EADIE ET AL.
	Examiner SAN AUNG	Art Unit 3657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1-26 and 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-32, and 34-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____. |
|--|--|

DETAILED ACTION

This communication is a Fifth Office Action Non-Final rejection on the merits. Claims 1-42, as originally filed, are currently pending and have been considered below.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2011 has been entered.

Response to Amendment

The amendment filed May 20, 2011 has been entered. Claims 27, 36 have been amended, new claims 43 and 44 have been added, claims 1-26, have been previously cancelled and 33 has been cancelled. Therefore, claims 27-32, 34-44 are now pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 27, 34-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941), and further in view of Clyne K. M. et al. (WO-0118558 A1, from IDS) and Gray (US Pub. No.: 2002/0072833 A1).

As per claim 27, Kumar discloses On-Board Lubrication System for Direct Application to Curve and Tangent Railroad Track comprising:

an applicator (14) for application of the liquid composition; and
a processing device for receiving the topological information, and controlling the application of the liquid composition, wherein control of the application of the liquid composition is based on the topological information received by the processing device (Column 5, Lines 1-11).

However, Kumar fails to explicitly disclose that,
a topological device comprising a single global position system (GPS) for acquiring topological information of a rail system based upon sampling of data from the single GPS in real-time, the topological information comprising, speed, heading, altitude, change in speed, change in direction, change in elevation or orientation of a rail car in the rail system, or a combination thereof; and

the processing device is accessed remotely at a site separate from a train consist in the rail system.

Clyne discloses Method and Apparatus for Measuring Navigational Parameter of a Locomotive comprising:

a topological device comprising a single global position system (GPS) for acquiring topological information of a rail system (Clyne discloses, a single GPS

Art Unit: 3657

receiver and antenna, page 6, lines 25-26) based upon sampling of data from the single GPS in real-time, the topological information comprising, speed, heading, altitude, change in speed, change in direction, change in elevation or orientation of a rail car in the rail system, or a combination thereof (Clyne also discloses, in addition to any other signals provided for other purpose, and track database 30 is constitute to determine track curvature C at that location, that is orientation of a rail car, page 6, lines 25-29).

However, Kumar and Clyne both silent about the processing device is accessed remotely at a site separate from a train consist in the rail system.

Gray discloses Track Database Integrity Monitor for Enhanced Railroad Safety Distributed Power comprising:

the processing device is accessed remotely at a site separate from a train consist in the rail system (Gray discloses remote monitoring facility 31 and positioning-determining device 28, paragraph 21, and also disclose that present invention also disclose a method for remotely controlling a locomotive, paragraph 11).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to a topological device comprising a single global position system (GPS) for acquiring topological information of a rail system based upon sampling of data from the single GPS in real-time, the topological information comprising, speed, heading, altitude, change in speed, change in direction, change in elevation or orientation of a rail car in the rail system, or a combination as taught by Clyne in order to provide an accurate heading and advantageously be used to reduce usage of lubricant applied to the rail

Art Unit: 3657

and also to use processing device is accessed remotely at a site separate from a train consist in the rail system as taught by Gray in order to provide an enhanced railroad safety and control the application of the lubricant any remote region efficiency and can stop immediately in case of emergency and quickly and reliable meet the need for a track database integrity monitor as part of an enhance railroad lubrication.

As per claim 34, Kumar discloses the processing device comprises one or more than one electronic component selected from the group consisting of a microprocessor, a programmable logic controller, a computer, and a combination thereof (Column 5, Lines 1-7, Figure 5).

As per claim 35, Kumar discloses the one or more than one electronic component has an operator-actuated interface (Column 6, Lines 15-22).

As per claim 36, Kumar discloses all the structural elements of the claimed invention but fails to explicitly disclose the topological information received by the processing device for controlling the application of the liquid composition is selected from the group consisting of orientation speed change in direction, or changes in elevation of the rail car, or a combination thereof.

Clyne discloses the topological information received by the processing device for controlling the application of the liquid composition is selected from the group consisting of orientation speed change in direction, or changes in elevation of the rail car, or a combination thereof (Clyne also discloses, in addition to any other signals provided for other purpose, and track database 30 is constitute to determine track curvature C at that

Art Unit: 3657

location, that is orientation of a rail car, page 6, lines 24- page 7, Line 8, and page 9, Line 5-8).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to include the topological information received by the processing device for controlling the application of the liquid composition is selected from the group consisting of orientation speed change in direction, or changes in elevation of the rail car, or a combination as taught by Clyne in order to provide an accurate heading and advantageously be used to reduce usage of lubricant applied to the rail.

As per claim 37, Kumar discloses all the structural elements of the claimed invention but fails to explicitly disclose the topological information acquired by the GPS and received by the processing device is selected from the group consisting of latitude, longitude, speed, heading, altitude, and a combination thereof.

Clyne discloses the topological information acquired by the GPS and received by the processing device is selected from the group consisting of latitude, longitude, speed, heading, altitude, and a combination thereof (Page 6, Lines 26 – page 7, line 4).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to include the topological information acquired by the GPS and received by the processing device is selected from the group consisting of latitude, longitude, speed, heading, altitude, and a combination as taught by Clyne in order to provide accurate heading and advantageously be used to reduce usage of lubricant applied to the rail.

As per claim 38, Kumar discloses the GPS provides the processing device with topological information regarding speed of the rail car in the rail system to control a rate of application of the liquid composition (Column 5, Lines 38-42).

However, Kumar fails to explicitly disclose that GPS provides the topological information.

Clyne discloses a topological device comprising a global position system (GPS) for acquiring topology information of a rail system in real-time (Page 6, Line 24 - page 7, line 8).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to include the topological device comprising a global position system (GPS) for acquiring topology information of a rail system in real-time as taught by Clyne in order to provide an accurate heading and advantageously be used to reduce usage of lubricant applied to the rail.

As per claim 39, Kumar discloses providing the processing device with topological information regarding changes in position of the rail car in the rail system to determine whether or not the rail car is negotiating a curved portion of a rail track in the rail system and the processing device controls application of the liquid composition accordingly (Column 5, Lines 38-42).

However, Kumar fails to explicitly disclose that GPS provides the topological information.

Clyne discloses a topological information of a rail system in real-time (Page 6, Line 24 – page 7, line 8).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to include the topological device and which comprising a global position system (GPS) for acquiring topological information of a rail system in real-time as taught by Clyne in order to provide an accurate heading and advantageously be used to reduce usage of lubricant applied to the rail.

As per claim 40, Kumar as modified by Clyne discloses all the structural elements of the claimed invention but fails to explicitly disclose the GPS provides the processing device with topological information regarding changes in elevation of the rail car in the rail system to determine whether or not the rail car is negotiating an inclining or declining segment of a rail track in the rail system and the processing device controls application of the liquid composition accordingly.

Gray discloses the GPS provides the processing device with topological information regarding changes in elevation of the rail car in the rail system to determine whether or not the rail car is negotiating an inclining or declining segment of a rail track in the rail system and the processing device controls application of the liquid composition accordingly (Paragraph 26).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar as modified by Clyne to include the topological information regarding changes in elevation of the rail

Art Unit: 3657

car in the rail system to determine whether or not the rail car is negotiating an inclining or declining segment of a rail track in the rail system and the processing device controls application of the liquid composition accordingly as taught by Gray in order to provide quickly and reliably meet the need for a track database integrity monitor as part of an enhance railroad lubrication.

As per claim 41, Kumar discloses a method of applying a liquid composition in a rail system using the liquid composition application system of claim 27 (Column 5, Lines 1-61).

As per claim 42, Kumar discloses On-Board Lubricating System for Direct Application to Curve and Tangent Railroad Track comprising:

providing the liquid composition application system of (Figure 5); and

wherein control of the application of the liquid composition is based on the topological information received by the processing device (Column 5, Lines 1-11).

However, Kumar fails to explicitly disclose that:

acquiring topological information of the rail system in real-time using the GPS; processing the topological information remotely at a site separate from the train consist in the rail system and controlling application of the liquid composition using the processing device.

Clyne discloses acquiring topological information of the rail system in real-time using the GPS (Page 6, Line 24 - page 7, line 9, and page 9, line 5-8).

However, Kumar and Clyne both silent about processing the topological information at a site separate from the train consist in the rail system and controlling application of the liquid composition using the processing device.

Gray discloses the processing device is accessed remotely at a site separate from a train consist in the rail system (Gray disclosed that remote monitoring facility 31 and position-determining device 28, paragraph 21, and also disclose that present invention also discloses a method for remotely controlling a locomotive, paragraph 11).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar to include the topological device and which comprising a global position system (GPS) for acquiring topological information of a rail system in real-time as taught by Clyne in order to provide an accurate heading and advantageously be used to reduce usage of lubricant applied to the rail and also to use processing device is accessed remotely at a site separate from a train consist in the rail system as taught by Gray in order to provide an enhanced railroad safety and control the application of the lubricant any remote region efficiency and can stop immediately in case of emergency and quickly and reliable meet the need for a track database integrity monitor as part of an enhance railroad lubrication.

As per claim 43, Kumar as modified by Clyne discloses all the structural elements of the claimed invention but fails to explicitly disclose the processing device is configured to execute operational instruction received from the site separate from a train consist in the rail system.

Gray discloses the processing device is configured to execute operational instruction received from the site separate from a train consist in the rail system (Gray discloses remote monitoring facility 31 and positioning- determining device 28, paragraph 21, and also disclose that present invention also disclose a method for remotely controlling a locomotive, paragraph 11).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar as modified by Clyne to make the processing device is configured to execute operational instruction received from the site separate from a train consist in the rail system as taught by Gray in order to provide an enhanced railroad safety and control the application of the lubricant any remote region efficiency and can stop immediately in case of emergency and quickly and reliable meet the need for a track database integrity monitor as part of an enhance railroad lubrication.

As per claim 44, Kumar discloses the operational instructions direct the processing device to control the application of the liquid composition (Column 5, Lines 1-11).

3. **Claims 28-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (US Patent 5,477,941) as modified by Clyne K. M. et al. (WO-0118558 A1, from IDS) and Gray (US Pub. No.: 2002/0072833) as applied to claim 27 above, and further in view of Kast et al. (US Patent 6,578,669 B2).

As per claim 28, Kumar discloses:

one or more than one reservoir for holding the liquid composition (50, 51, Figure 5);

a pipe connected to the one or more than one reservoir (13, Figure 5);

one or more than one dispensing nozzle (17, 18, Figure 5).

However, Kumar fails to explicitly disclose a pump, in fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to the one or more than one dispensing nozzle.

Kast discloses Rail Lubrication System comprising: a pump (38, 64), in fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to the one or more than one dispensing nozzle (Figure 2).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar as modified by Clyne and Gray to include the pump, in fluid communication with the pipe, for moving the liquid composition from the one or more than one reservoir to the one or more than one dispensing nozzle as taught by Kast in order to provide continuously supply of a lubricant along the lubricant path and can apply relatively thick rail lubricant to the rail.

As per claim 29, Kumar as modified by Clyne and Gray discloses all the structural elements of the claimed invention but fails to explicitly disclose the processing device comprises a controller for controlling operation of the pump.

Kast discloses the processing device comprises a controller for controlling operation of the pump (by means of controlling electric motor, Figure 2).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar as modified by Clyne and Gray to include the pump and the processing device comprises a controller for controlling operation of the pump as taught by Kast in order to control the application of the lubricant efficiently and provide continuously supply of a lubricant along the lubricant path and can apply relatively thick rail lubricant to the rail.

As per claim 30, Kumar discloses the controller is selected from the group consisting of a programmable logic controller, a microprocessor and a computer (Column 5, Lines 1-7, and Figure 5).

As per claim 31, Kumar as modified by Clyne and Gray discloses all the structural elements of the claimed invention but fails to explicitly disclose the processing device comprises a metering device for controlling operation of the pump.

Kast discloses the processing device comprises a metering device for controlling operation of the pump (60, Column 4, Lines 60-67, and Figure 2).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the railroad lubricating system of the Kumar as modified by Clyne and Gray to include the metering device for controlling operation of the pump as taught by Kast in order to control the necessary lubricant amount effectively.

As per claim 32, Kumar discloses a source of pressurized air connected to the one or more than one dispensing nozzle to dispense the liquid composition as an atomized spray (Column 6, Lines 23-26).

Response to Arguments

4. Applicant's arguments filed May 20, 2011 have been fully considered but they are not persuasive.

In page 9 of REMARK, the applicant argued that "Kumar fails to teach the use of a GPS data (2nd paragraph)" and "Clyne K.M. clearly fails to disclose controlling the application of a liquid composition based upon topological information of a rail system acquired from a single GPS in real-time as recited in the claims as presently amended. Further, Clyne K.M. teaches away from such an approach by requiring that the control of the application of lubricant is based upon the properties of the track obtained from a predetermined track database".

Again, in page 10 of REMARK, the applicant argued that, "Gray does not teach or suggest the application of a liquid composition to the track; rather, Gray is directed at regulating power distribution amongst locomotives in a train" and "There is no teaching in Kast of a GPS system for acquiring topological information of a rail system in real time, nor controlling the application of lubricant based on such information. Accordingly, Gray clearly fails to disclose the control of the application of a liquid composition based upon topological information of a rail system acquired from a single GPS in real-time as recited in the claims as presently amended".

In response to applicant argument, the examiner respectfully disagrees. The prior art (Kumar '941) discloses on-board lubrication system and using microprocessor using eight input and amount of each of the two lubricants applied to the rail is controlled by the eight input (Column 5, Lines 1-11), however Kumar silent about how to get the

Art Unit: 3657

signal data. Therefore, the examiner teaches topological information of a rail system acquired from a single GPS in real-time as disclosed by Clyne '558. Clyne discloses in page 6, line 26 to page 7, line 8, "track database 30 contained measured or otherwise known track curvature, indexed by location. A single GPS receiver and antenna, for example GPS receiver 16 and antenna 12, provides a position signal 54 (in addition to any other signals provided for other purpose). That is that is topological information of the rail car in the rail system **or** a combination.

Again, As per Gray '833, the examiner did not teach the whole lubrication system of the railroad lubrication, the examiner only teach the system of the control system that is a transceiver 29 to send and receive data between the train 3 and remote monitoring facility 31 (that is "the processing device is accessed remotely at a site separate from a train consist in the rail system". Finally the examiner teach the lubrication system itself discloses in Kast '669 invention, which is "moving the liquid composition from one or more than one reservoir to the one or more than one dispensing nozzle and controlling operation of the pump by means of controlling electric motor" (figure 2).

Therefore, the rejection of Claims 27-32, 34-44 over Kumar '941 and further in view of Clyne '558, Gray '833, and Kast 669 is proper and maintained the rejection reason set forth above.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3657

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAN AUNG whose telephone number is (571)270-5792. The examiner can normally be reached on Mon-to- Fri 7:30 am- to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SAN AUNG/
Examiner, Art Unit 3657

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
Unit 3657